EXHIBIT A

PARTIES' JOINT CLAIM CONSTRUCTION CHART

FOR FAMILY 1 PATENTS

Disputed Claim Term	**Patent, Asserted Claims**	**Plaintiff's Proposed Construction**	**Defendants' Proposed Construction**
"transceiver"	'686 patent, claim 5 '430 patent, claims 1, 2 '784 patent, claims 1, 2 '412 patent, claims 1-4 '956 patent, claims 1-4	"communications device capable of transmitting and receiving data wherein the transmitter portion and receiver portion share at least some common circuitry" Intrinsic Evidence: *See, e.g.*, Ex. B ('686 patent), Fig. 1.[1]	"communications device capable of transmitting and receiving data" Intrinsic Evidence:[2] '686 patent, cols. 1:54-2:11, 5:11-32 '686 patent, claim 5 '430 patent, claims 1, 2 '784 patent, claims 1, 2 '412 patent, claims 1, 3 '956 patent, claims 1, 3
"diagnostic information"	'686 patent, claim 5 '956 patent, claims 1-4	"information relating to a characteristic of a communication channel collected and communicated in a diagnostic mode" Intrinsic Evidence: *See, e.g.*, Ex. B ('686 patent), Abstract, 1:24–31, 3:19 –42, 4:51–54, and 5:18–20.	"information relating to a characteristic of a communication channel or the communications equipment operating on that channel" Intrinsic Evidence: '686 patent, Abstract, cols. 1:18-2:67, 3:18-20, 3:44-54, 4:1-54, 5:11-32, 5:54-6:9, 7:11-31 '412 patent, claim 1 '956 patent, claim 1

[1] The '686, '430, '784, '412, and '956 share a common disclosure. For brevity, this document cites only to the '686 patent.
[2] Defendants cite only to the specification of the '686 patent for consistency and ease of reference as the Family 1 patents share a common specification.

Disputed Claim Term	**Patent, Asserted Claims**	**Plaintiff's Proposed Construction**	**Defendants' Proposed Construction**
"array representing frequency domain received idle channel noise information"	'686 patent, claim 5 '430 patent, claims 1, 2	"ordered set of values representative of noise in the frequency domain that was received by a transceiver on respective subchannels in the absence of a transmission signal on the respective subchannels" Intrinsic Evidence: Ex. B ('686 patent), 1:44–50 and 4:5-50; Ex. H, p. 25–27.	"ordered set of values representative of noise in the frequency domain that was received by a transceiver on respective subchannels in the absence of a transmission signal" Intrinsic Evidence: '686 patent, cols. 1:34-43, 4:1-49, 5:54-6:9
"message determination module capable of determining and, in cooperation with the transceiver, transmitting a diagnostic message"	'686 patent, claim 5	Not governed by 35 U.S.C. § 112(6). "a message determination module is a hardware and/or software component that assembles the information to be transmitted into a message for transmission by the transceiver" Intrinsic Evidence: Ex. B ('686 patent), Fig. 1, 5:60–66, 7:20–23, and 8:18–27.	Governed by 35 U.S.C. § 112(6). Function: "(i) determining a diagnostic message and (ii) in cooperation with the transceiver, transmitting the diagnostic message" Structure: Indefinite Intrinsic Evidence: '686 patent, cols. 2:35-55, 4:1-5:10, 5:54-6:9, 7:7-8:27; Figs. 1-2
"each bit in the diagnostic message is mapped to at least one DMT signal"	'686 patent, claim 5	"each bit in the diagnostic message is communicated using a modulation scheme where a DMT signal (or two or more DMT signals) represents only a single bit of the diagnostic message" Intrinsic Evidence:	Indefinite Intrinsic Evidence: '686 patent, cols. 1:34-50, 1:54-2:14, 3:44-67 Ex. H, pp. 1-2, 10, 15

Disputed Claim Term	**Patent, Asserted Claims**	**Plaintiff's Proposed Construction**	**Defendants' Proposed Construction**
		Ex. B ('686 patent), 3:44–63.	
"DMT signal"		"a DMT signal is the signal resulting from DMT modulation where the signal has the duration of a DMT symbol period" Intrinsic Evidence: Ex. B ('686 patent), 1:34–40 and 3:44–67.	"signal resulting from DMT modulation" Intrinsic Evidence: '686 patent, cols. 1:34-50, 1:54-2:14, 3:44-67 Ex. H, pp. 1-2, 10, 15
"subchannel"	'784 patent, claims 1, 3 '412 patent, claims 1, 3 '956 patent, claims 1, 3	"a carrier of a multicarrier communication channel" Intrinsic Evidence: Ex. B ('686 patent), 1:34–40, 2:1– 11, 3:50– 53, and 3:58–60.	Plain meaning "range within the frequency band of a multicarrier communications channel associated with a single carrier signal" Intrinsic Evidence: '686 patent, cols. 1:34-43, 1:54-2:14, 3:54-67 Ex. G, pp. 4-5, 30-31

Claim Term	Patent, Claims	Agreed Construction
"test information"	'430 patent, claims 1, 2 '784 patent, claims 1, 2 '412 patent, claims 1-4	"information relating to a characteristic of a communication channel or the communications equipment operating on that channel"
"array representing power level per subchannel information"	'412 patent, claims 1-4 '956 patent, claims 1-4	"ordered set of values representative of power levels of respective subchannels"
"Reverb signal"	'412 patent, claims 2, 4 '956 patent, claims 2, 4	"signal generated by modulating carriers in a multicarrier system with a known pseudo-random sequence to generate a wideband modulated signal"
"Showtime"	'784 patent, claims 1, 2	"the state of the transceiver reached after all initialization and training is completed, in which user data is transmitted or received"
"array representing Signal to Noise ratio per subchannel during Showtime information"	'784 patent, claims 1, 2	"ordered set of values representative of the signal to noise ratio of respective subchannels during the state of the transceiver reached after all initialization and training is completed, in which user data is transmitted or received"
"multicarrier"	'686 patent, claim 5 '430 patent, claims 1, 2 '784 patent, claims 1, 2 '412 patent, claims 1, 3 '956 patent, claims 1, 3	"having multiple carrier signals that are combined to produce a transmission signal"